Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 10 of this paper.

In the Claims:

Please cancel claims 1-35 and 40-117.

Please add new claims 118-138 as follows.

Please amend the claims as follows. The changes in the amendments are shown with ~~strikethrough~~ for deleted text and underlines for added text. The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-35 (Cancelled)

36. (Currently Amended) A protein chip, comprising:

a substrate; and

a reaction product of a reactant ligand ~~and~~ covalently bonded to a fusion polypeptide, ~~on~~ the reactant ligand attached to said substrate;

wherein said fusion polypeptide comprises a capture polypeptide moiety corresponding to said reactant ligand**[**, and wherein said reactant ligand is immobilized on said substrate**]**.

37. (Currently amended) A protein chip, comprising:

a substrate; and

a reaction product of a reactant ligand covalently bonded to a fusion polypeptide, the reactant ligand attached to said substrate; wherein said fusion polypeptide comprises a capture polypeptide moiety corresponding to said reactant ligand; and

~~The protein chip of claim 36~~, wherein the substrate comprises a surface comprising gold, and a plurality of moieties, on at least a portion of said surface,

wherein said moieties are alkanethiolate moieties of formula (X):

Surf—S—L—Q—Z (X),

wherein -L- is $-(A_x-B_y-E_z-D)_w-$;

each A, B, E and D are individually $C(R_AR_A')$-, $-C(R_BR_B')$-, $-C(R_ER_E')$-,and $-C(R_DR_D')$-, respectively;

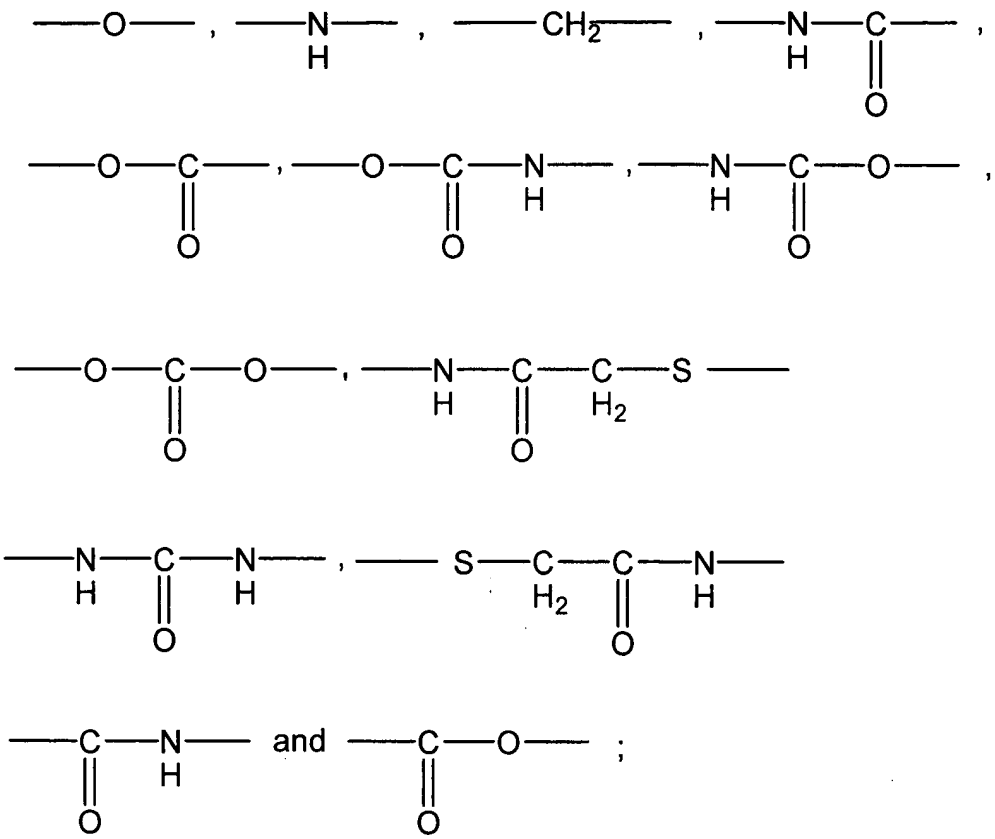
each R_A, R_B, R_E and R_D is selected from the group consisting of H, alkyl, alkenyl, alkynyl, aryl and heterocyclic radical, or any two of R_A, R_B, R_E and R_D together form a bond, or any two of R_A, R_B, R_E and R_D together with the atoms to which they are bonded form a ring;

each R_A', R_B', R_E' and R_D' is selected from the group consisting of H, alkyl, alkenyl, alkynyl, aryl and heterocyclic radical, or any two of R_A', R_B', R_E' and R_D' together form a bond, or any two R_A', R_B', R_E' and R_D' together with the atoms to which they are bonded form a ring;

each x, y and z are individually either 0 or 1;

w is 1 to 5;

-Q- is selected from the group consisting of



-Z comprises said reaction product; and

Surf designates where the moieties attach to said surface.

38. (Currently Amended) A protein chip, comprising:

a substrate; and

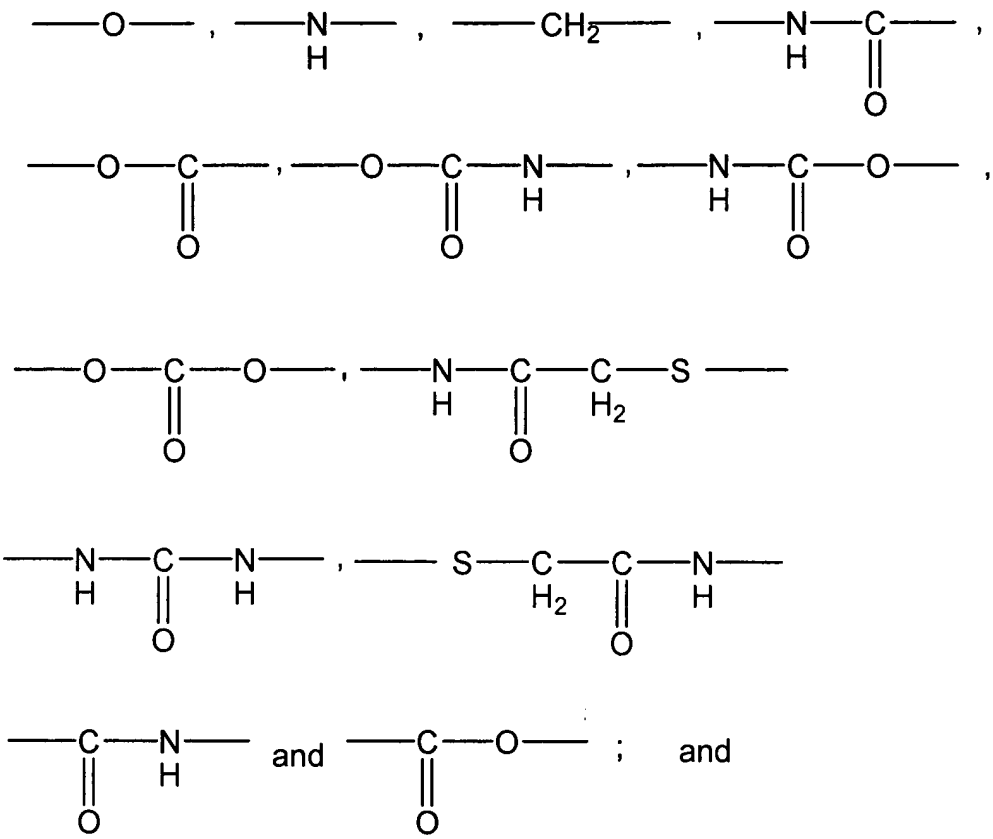
a reaction product of a reactant ligand covalently bonded to a fusion polypeptide, the reactant ligand attached to said substrate; wherein said fusion polypeptide comprises a capture polypeptide moiety corresponding to said reactant ligand; and

~~The protein chip of claim 36,~~ wherein the substrate comprises a surface, and a plurality of moieties, on at least a portion of said surface,

wherein said moieties are moieties of formula (XI):

—Q—Z (XI),

wherein -Q- is selected from the group consisting of



-Z comprises comprises said reaction product.

39. (Currently Amended) A protein chip, comprising:

a substrate; and

a reaction product of a reactant ligand covalently bonded to a fusion polypeptide, the reactant ligand attached to said substrate; wherein said fusion polypeptide comprises a capture polypeptide moiety corresponding to said reactant ligand; and

~~The protein chip of claim 36,~~ wherein the substrate comprises a surface, and a plurality of moieties, on at least a portion of said surface,

wherein said moieties are moieties of formula (XII):

—L—Q—Z (XII),

wherein -L- is $-(A_x-B_y-E_z-D)_w-$;

each A, B, E and D are individually $C(R_AR_A')$-, $-C(R_BR_B')$-, $-C(R_ER_E')$-,and $-C(R_DR_D')$-, respectively;

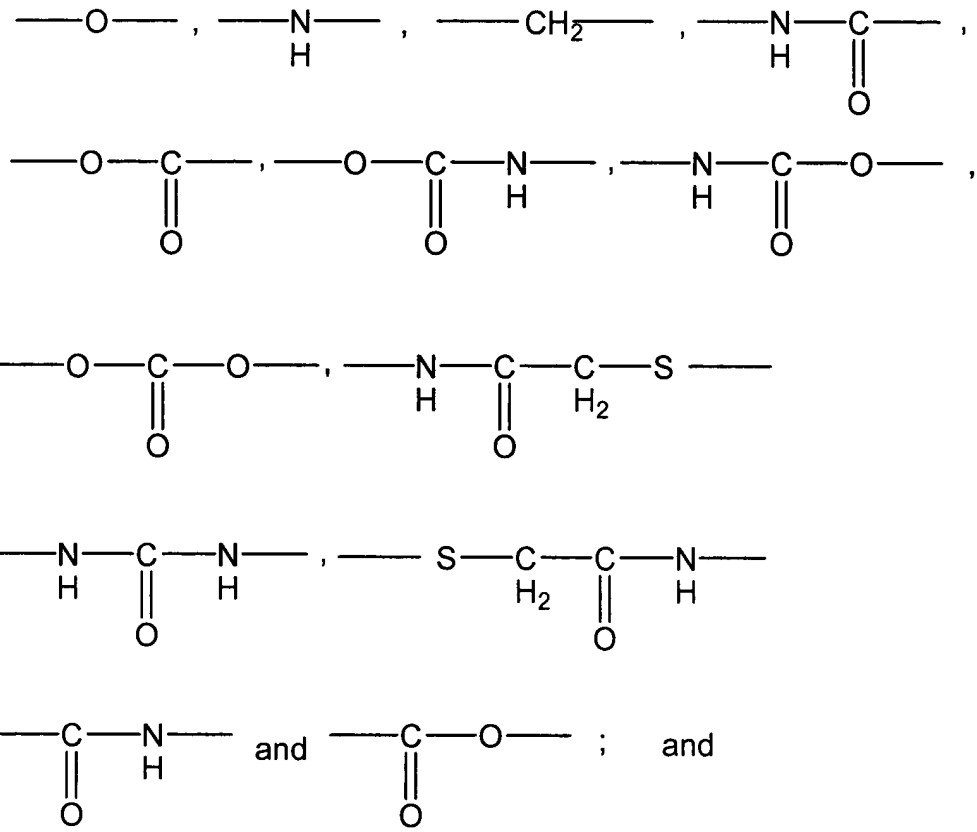
each R_A, R_B, R_E and R_D is selected from the group consisting of H, alkyl, alkenyl, alkynyl, aryl and heterocyclic radical, or any two of R_A, R_B, R_E and R_D together form a bond, or any two of R_A, R_B, R_E and R_D together with the atoms to which they are bonded form a ring;

each R_A', R_B', R_E' and R_D' is selected from the group consisting of H, alkyl, alkenyl, alkynyl, aryl and heterocyclic radical, or any two of R_A', R_B', R_E' and R_D' together form a bond, or any two R_A', R_B', R_E' and R_D' together with the atoms to which they are bonded form a ring;

each x, y and z are individually either 0 or 1;

w is 1 to 5;

-Q- is selected from the group consisting of



-Z comprises comprises said reaction product.

Claims 40-117. (Cancelled)

118. (New) The protein chip of claim 37, wherein -L- contains 8 to 18 carbon atoms.

119. (New) The protein chip of claim 39, wherein -L- contains 8 to 18 carbon atoms.

120. (New) The protein chip of claim 37, wherein -L- is an alkylene containing 6 to 18 carbon atoms, and -Q- is -O-.

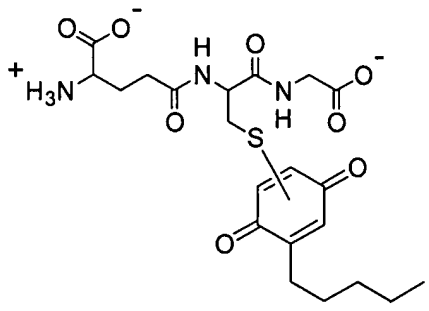
121. (New) The protein chip of claim 39, wherein -L- is an alkylene containing 6 to 18 carbon atoms, and -Q- is -O-.

122. (New) The protein chip of claim 37, wherein -Q- is -O- or $-CH_2-$.

123. (New) The protein chip of claim 38, wherein -Q- is -O- or $-CH_2-$.

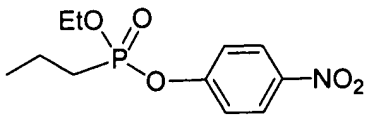
124. (New) The protein chip of claim 39, wherein -Q- is -O- or $-CH_2-$.

125. (New) The protein chip of claim 36, wherein the reactant ligand is a moiety of formula (II)



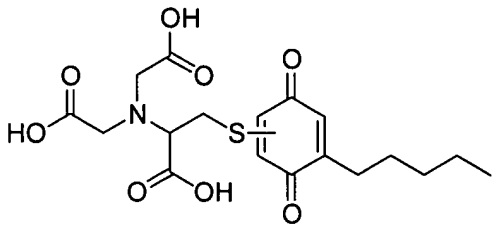
(II).

126. (New) The protein chip of claim 36, wherein the reactant ligand is a moiety of formula (III)



(III).

127. (New) The protein chip of claim 36, wherein the reactant ligand is a moiety of formula (IV)



(IV).

128. (New) The protein chip of claim 36, wherein the substrate comprises at least one member selected from the group consisting of metal, metal oxide, glass, ceramic, quartz, silicon, polymer, sepharose, agarose, a colloid, a lipid bilayer, and a lipid monolayer.

129. (New) The protein chip of claim 36, wherein the substrate comprises gold.

130. (New) The protein chip of claim 36, further comprising a surface on the substrate.

131. (New) The protein chip of claim 130, wherein the surface is selected from the group consisting of sepharose, agarose, polyacrylamide, polystyrene, dextran, lipid monolayer, lipid bilayer, metal, metal oxide, glass, ceramic, quartz, silicon, polyethylene, and polypropylene.

132. (New) The protein chip of claim 130, wherein the surface comprises gold.

133. (New) The protein chip of claim 130, wherein the surface comprises a gel.

134. (New) The protein chip of claim 130, wherein the surface comprises a porous material.

135. (New) The protein chip of claim 36, wherein the plurality of moieties form a patterned monolayer.

136. (New) The protein chip of claim 36, wherein the fusion polypeptide is a fusion polypeptide of GST.

137. (New) The protein chip of claim 36, wherein the fusion polypeptide is a fusion polypeptide of cutinase.

138. (New) The protein chip of claim 36, wherein the fusion polypeptide is a fusion polypeptide of GGCHHHC.